SANTA CRUZ BIOTECHNOLOGY, INC.

Neurobeachin siRNA (h): sc-75907

BACKGROUND

Neurobeachin, also known as NBEA, BCL8B or lysosomal-trafficking regulator 2 (LYST2), is a 2,946 amino acid A-kinase anchor protein that localizes to the cytoplasm and peripheral membrane, and belongs to the WD repeat neurobeachin family. By binding the type II regulatory subunits of protein kinase A (PKA), Neurobeachin is able to anchor PKA to the membrane or cytoskeletal and organelle-associated proteins. Neurobeachin is expressed predominantly in brain, with moderate levels found in thymus, prostate, spleen, ovary and testis. Lower levels have been found in kidney, heart, skeletal muscle, intestine and pancreas. Neurobeachin exists as two alternatively spliced isoforms and contains one BEACH domain and five WD repeats. Mutations of the gene encoding Neurobeachin is associated with idiopathic autism and is disrupted in patients with multiple myeloma.

REFERENCES

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2. Gilbert, D.J., et al. 1999. The Neurobeachin gene (Nbea) identifies a new region of homology between mouse central chromosome 3 and human chromosome 13q13. Mamm. Genome 10: 1030-1031.
3. Wang, X., et al. 2000. Neurobeachin: a protein kinase A-anchoring, beige/Chediak-higashi protein homolog implicated in neuronal membrane traffic. J. Neurosci. 20: 8551-8565.
4. Jogl, G., et al. 2002. Crystal structure of the BEACH domain reveals an unusual fold and extensive association with a novel PH domain. EMBO J. 21: 4785-4795.
5. Dyomin, V.G., et al. 2002. Bcl-8 is a novel, evolutionarily conserved human gene family encoding proteins with presumptive protein kinase A anchoring function. Genomics 80: 158-165.
6. Castermans, D., et al. 2003. The Neurobeachin gene is disrupted by a translocation in a patient with idiopathic autism. J. Med. Genet. 40: 352-356.
7. Savelyeva, L., et al. 2006. The Neurobeachin gene spans the common fragile site FRA13A. Hum. Genet. 118: 551-558.

CHROMOSOMAL LOCATION

Genetic locus: NBEA (human) mapping to 13q13.3.

PRODUCT

Neurobeachin siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Neurobeachin shRNA Plasmid (h): sc-75907-SH and Neurobeachin shRNA (h) Lentiviral Particles: sc-75907-V as alternate gene silencing products.

For independent verification of Neurobeachin (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-75907A, sc-75907B and sc-75907C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Neurobeachin siRNA (h) is recommended for the inhibition of Neurobeachin expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Neurobeachin gene expression knockdown using RT-PCR Primer: Neurobeachin (h)-PR: sc-75907-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.